

GP-303269
GM2-0070

REMARKS

Claims 1-25 were pending in the present Application. Claims 1, 9, 18, and 24-25 have been amended and Claims 26-27 have been added, leaving Claims 1-27 for consideration upon entry of the present Amendment. No new matter has been introduced by these amendments. For example, support for the amendments to Claims 1, 9, and 18 can be found at least in Figure 1. Furthermore, support for newly added Claims 26 and 27 can be found at least in originally filed Claims 1-3 and 9-11, respectively.

Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Objections

Claim 25 is objected to because the dependency of Claim 25 is unclear.

The objection to Claim 25 has been rendered moot in view of the amendment thereto. Applicants appreciate the Examiner's thoroughness in noting the unintentional typographical error.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claim 24 stands rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, there is not sufficient antecedent basis for the limitation "the support member" in lines 2-3.

The rejection of Claim 24 has been rendered moot in view of the amendments thereto. Again, Applicants appreciate the Examiner's efforts in noting the unintentional typographical error.

First Claim Rejection Under 35 U.S.C. § 102(b)

Claims 1, 2, 4, and 6 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by US Patent No. 6,390,253 to Oliver (hereinafter "Oliver"). Applicants respectfully traverse this rejection.

GP-303269
GM2-0070

To anticipate a claim, a reference must disclose each and every element of the claim.
Lewmar Marine v. Varient Inc., 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

The rejection of Claim 1 has been rendered moot in view of the amendments thereto. Specifically, Oliver fails to disclose the feature, "wherin the magnetorheological fluid essentially does not flow to effect the sliding engagement". The Examiner's attention is directed towards the Abstract, the relevant parts of which are reproduced for convenience as shown below.

The magneto-rheological damping apparatus includes a cylinder, having an MR fluid chamber portion containing a magneto-rheological fluid therein; a piston rod extending concentrically within the MR fluid chamber portion of the cylinder, where the piston rod is axially slideable with respect to the cylinder; a piston mounted on the piston rod and positioned within the MR fluid chamber portion of the cylinder, where a radial gap is formed between the piston and the MR fluid chamber portion of the cylinder so as to provide a flow path for the magneto-rheological fluids; a pair of rod guides positioned on opposite ends of the MR fluid portion of the cylinder, where the piston rod extends through and is supported by both rod guides; and a solenoid, operatively coupled to a current supply for generating a magnetic flux in the radial gap, thereby controlling the viscosity of the magneto-rheological fluid in the flow path.

(Oliver, Abstract, emphasis added)

Oliver specifically discloses magnetorheological fluid flow for its device to function, and thus cannot anticipate Applicants' disclosure of "the magnetorheological fluid essentially does not flow to effect the sliding engagement". This is clearly shown in Oliver's Figure 2 showing that the fluid must flow from one compartment to another compartment for the piston (66, 64) to move within the sleeve (58).

Accordingly, Applicants respectfully request withdrawal of the rejection of Claim 1, and claims dependent thereon, i.e., Claims 2, 4, and 6.

Second Claim Rejection Under 35 U.S.C. § 102(b)

Claims 9, 10, 12, and 14-16 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by US Patent No. 5,947,238 to Jolly et al (hereinafter "Jolly"). Applicants respectfully traverse this rejection.

GP-303269
GM2-0070

The rejection of Claims 9, 10, 12, and 14-16 has been rendered moot in view of the amendments thereto. Specifically, Jolly fails to disclose the feature, "wherin the magnetorheological fluid essentially does not flow to effect sliding of the support member". The Examiner's attention is directed to Jolly's Detailed Description of the Preferred Embodiments, the relevant part of which is reproduced for convenience as shown below.

The piston 26a subdivides the internal cavity 24a into a first chamber 28a and a second chamber 30a. Preferably, the piston 26a includes several wear portions (See FIG. 12e) which contact the inner diameter of the housing 22a. These protruding wear portions position the piston 26a within the internal cavity 24a thereby forming the gap through which the magnetorheological fluid 34a flows forming one or more passageways 36a. The one or more passageways 36a interconnect the first chamber 28a and second chamber 30a and allow fluid communication therebetween.

(Jolly, column 4, lines 37-47, emphasis added)

Jolly specifically discloses magnetorheological fluid flow, and thus cannot anticipate Applicants' disclosure of "the magnetorheological fluid essentially does not flow to effect sliding of the support member". Like Oliver above, Jolly also shows in its Figures that that the fluid must flow from one compartment to another compartment for the piston to effect movement within the sleeve

Accordingly, Applicants respectfully request withdrawal of the rejection of Claims 9, 10, 12, and 14-16.

Third Claim Rejection Under 35 U.S.C. § 102(b)

Claims 1, 2, 4, 6, 8-10, 12, 14, 16-19, 21, 22, and 24 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by US Patent No. 6,427,813 to Carlson (hereinafter "Carlson '813"). Applicants respectfully traverse this rejection.

The rejection of Claims 1, 9, and 18 has been rendered moot in view of the amendments thereto. Specifically, Carlson '813 fails to disclose the feature, "wherin the magnetorheological fluid essentially does not flow". The Examiner's attention is directed to Carlson's Detailed

GP-303269
GM2-0070

Description of the Preferred Embodiments, the relevant part of which is reproduced for convenience as shown below.

The piston assembly 26 is axially moveable within the hollow 30 thereby dividing same into a first and second chambers 32, 34. Notably, a working portion (gap) 36 is formed between the piston assembly 26 and inner diameter of housing 22.

This working portion 36 is preferably annular-shaped and formed by the interaction and orientation of the housing 22 and piston assembly 26. Notably, the working portion 36 may alternatively pass through the piston assembly 26 as is known to those of ordinary skill in the MR damper arts. By energizing the plurality of alternately wound coils 40 with the appropriate electrical current (generally about 1 Amp--requiring power of about 22 watts), magnetic fields are generated of sufficient strength to control flow of MR fluid 38 between the first and second chambers 32, 34.

(Carlson '813, Columns 3-4, lines 59-carryover line 6, emphasis added)

Carlson '813 specifically discloses magnetorheological fluid flow, and thus cannot anticipate Applicants' feature of "wherein the magnetorheological fluid essentially does not flow".

Independent Claim 24 is directed to an impact energy absorber device, comprising a primary impact surface fixedly attached to a shaft, wherein a support member is slidably engaged with a housing; a plurality of plates disposed in the housing, wherein each plate is substantially parallel to an adjacent plate, and wherein the plurality of plates are alternating attached to the support member and a framing member of the housing to define a space between adjacent plates; a magnetorheological fluid disposed in the space; and an electromagnet or permanent magnet in proximity to the magnetorheological fluid.

Carlson '813 fails to disclose at least "a plurality of plates disposed in the housing" and, as such, cannot anticipate Applicants' independent Claim 24.

Accordingly, Applicants respectfully request withdrawal of the rejection of Claims 1, 2, 4, 6, 8-10, 12, 14, 16-19, 21, 22, and 24.

GP-303269
GM2-0070

Fourth Claim Rejection Under 35 U.S.C. § 102(b)

Claim 24 stands rejected under 35 U.S.C. § 102(b) as allegedly anticipated by US Patent No. 5,492,312 to Carlson (hereinafter "Carlson '312"). Applicants respectfully traverse this rejection.

Carlson '312 fails to anticipate Applicants' Claim 24 because each and every element of Claim 24 has not been disclosed. Carlson '312 does not disclose at least "a plurality of plates disposed in the housing, wherein each plate is substantially parallel to an adjacent plate, and wherein the plurality of plates are alternatingly attached to the support member and a framing member of the housing to define a space between adjacent plates". The Examiner's attention is directed towards the Detailed Description of the Preferred Embodiments, the relevant part of which is reproduced for convenience as shown below.

Housing 22 is closed on each end by plateforms 24 which are captured by rolling over ends 26 of housing 22 to engage the metal plate 28 (preferably steel) of plateform 24. Plateform mounts are available from Lord Corporation and are available in a variety of sizes and stiffnesses. Plateforms which are particularly appropriate are identified as Lord Series 100 plateform mounts. Elastomer portions 30 of the plateforms 24 are bonded to metallic spacers 32 which surround opposite ends of through bolt 34. A pair of non-magnetic spacers 36 engage opposed sides of baffle plate 38 retaining it in position on bolt 34.

The bolt-and-baffle-plate assembly 35 functions as a piston moving in fluid 40. A pair of cup-shaped opposite facing members 42 make up the magnetic core receiving therebetween a bobbin wound coil 44. Core members 42 are preferably made of steel.

(Carlson '312, Column 2, lines 41-56)

As noted above, Carlson '312 discloses two plateforms, which function to seal the housing, as well as a baffle plate, which serves as part of a piston, and a pair of cup-shaped plates. Carlson '312 cannot anticipate Applicants' Claim 24 because the facing members are disclosed as "cup-shaped", while, according to the figures, the baffle plate is not "cup-shaped". Thus, the facing members cannot be "substantially parallel to an adjacent plate". Furthermore, as shown in Figure 1 of Carlson '312, which the Office Action cites, the plateforms and the cup-shaped plates are both attached to the housing and do not alternate with the baffle plate of the bolt. Thus,

GP-303269
GM2-0070

Carlson '312 also fails to disclose "the plurality of plates are alternatingly attached to the support member and a framing member of the housing".

Accordingly, Applicants respectfully request withdrawal of the rejection of Claim 24.

First Claim Rejection Under 35 U.S.C. § 103(a)

Claims 5, 7, 13, 15, and 20 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Carlson '813 in view of US Patent No. 5,525,249 to Kordonsky et al (hereinafter "Kordonsky"). Applicants respectfully traverse this rejection.

Carlson '813 is generally directed to a magnetorheological fluid device, which may be used as a damper. The device comprises a housing including a hollow, a moving element contained within said hollow, said housing and said moving element oriented to form at least one working section and at least one chamber within said hollow, a magnetorheological fluid contained within said at least one working section and said at least one chamber, means for generating a magnetic field to act upon said magnetorheological fluid contained within said at least one working section to cause a rheology change therein, and means for generating a low-level magnetic field to act upon a substantial portion of said magnetorheological fluid contained in said at least one chamber to minimize settling of said magnetorheological fluid contained therein.

Kordonsky is generally directed to a magnetorheological fluid composition comprising magneto-solid particles, magneto-soft particles, a stabilizer, and a carrying fluid.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596,

GP-303269
GM2-0070

1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Applicants assert a *prima facie* case of obviousness has not been established against Applicants' independent Claims 1, 9, and 18. As discussed in the Third Claim Rejection Under 35 U.S.C. § 102(b) above, Carlson '813 fails to disclose the feature "wherein the magnetorheological fluid essentially does not flow". In fact, Carlson '813 teaches away from this by specifically disclosing fluid flow between two chambers of the housing. Therefore, Carlson '813 does not disclose or suggest all elements of Applicants' independent Claims 1, 9, and 18.

Kordonsky fails to compensate for the deficiencies of Carlson '813. Like Carlson '813, there is no disclosure or suggestion of the feature "wherein the magnetorheological fluid essentially does not flow". As such, a *prima facie* case of obviousness against Applicants' independent Claims 1, 9, and 18 has not been established because all elements of these claims are not disclosed or suggested by the cited art individually or in combination.

Accordingly, Applicants respectfully request withdrawal of the rejection to Claims 5, 7, 13, 15, and 20.

Second Claim Rejection Under 35 U.S.C. § 103(a)

Claim 25 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Carlson '312 in view of Kordonsky. Applicants respectfully traverse this rejection.

Applicants assert a *prima facie* case of obviousness has not been established against Applicants' independent Claim 24, from which Claim 25 is dependent thereon and as such, includes all features found in the base claim. As discussed in the Fourth Claim Rejection Under 35 U.S.C. § 102(b) above, Carlson '312 fails to disclose "a plurality of plates disposed in the housing, wherein each plate is substantially parallel to an adjacent plate, and wherein the plurality of plates are alternatingly attached to the support member and a framing member of the housing to define a space between adjacent plates". In fact, Carlson '312 teaches away from this by specifically disclosing non-substantially parallel adjacent plates and non-alternatingly attached

GP-303269
GM2-0070

plates. As such, Carlson '312 cannot disclose or suggest all elements of Applicants' independent Claim 24.

As Kordonsky is directed only to magnetorheological fluid compositions, and not to specific device applications, Kordonsky fails to compensate for the deficiencies of Carlson '312. As such, a *prima facie* case of obviousness against Applicants' independent Claim 24 has not been established because all elements of this claim are not disclosed or suggested by the cited art individually or in combination.

Accordingly, Applicants respectfully request withdrawal of the rejection to Claim 25.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By 
Peter R. Hagerty
Registration No. 42,618

Date: July 12, 2004
Telephone (860) 286-2929
Facsimile (860) 286-0115
Customer No.: 23413